

Date: Monday, 11/27/2006 10:05:48 AM
 User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: AFT X-TUBE EXT HEIGHT(-013)
Job Number	: 29703		
Estimate Number	: 10563		
P.O. Number	: N/A	Part Number	: D205596107
This Issue	: 11/27/2006 S.O. No. : N/A	Drawing Number	: D205596107
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: N/A Type : LANDING GEAR	Drawing Revision	: A
Previous Run	: 28663	Material	: N/A
Written By	: <u>HA 06 11 27</u>	Due Date	: 12/15/2006 Qty: 1 Um: Each
Checked & Approved By	: <u>HA 06 11 27</u>		
Comment	: Est Rev:D 08.03.21 Added bending procedure KJ/JLM		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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Comment: DOCUMENT CONTROL

Photocopy D205-594 bluefile & type labels per PPP D205-596-107CHG001

2.0	D2890	Aft Crosstube
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty	Part number	Description	Batch
1	D2890	Aft Crosstube	B07481

3.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1

Mark 20.36" for cutting from tangential line in the straight section from D2890 as per Dwg wall template.

4.0	QC6	DIMENSIONAL CHECK
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Comment: DIMENSIONAL CHECK

Inspect dimensions. Conformity check and sign off by engineering.

5.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1

1-Cut as per Dwg D205-596-107

2-Deburr & Inspect for surface damage. Polish cut surface. Scribe part # and batch # on one end of tube.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 11/27/2006 10:05:49 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT X-TUBE EXT HEIGHT(-013)

Job Number: 29703

Part Number: D205596107

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Touch up ends of the tube with Chemical Conversion Coat per QSI 005 4.1

BE/SD/M

07-01-31

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

07-02-13

8.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside with Immron per QSI 005 4.2

27/11/11

07-04-17

①

07-03-22

①

9.0

QC14

Inspect Spray Paint



Comment: Inspect Spray Paint

07-04-18

①

10.0

D2856600

Abrasion Strip



Comment: Qty.: 1.6810 f(s)/Unit Total: 1.6810 f(s)

Pick:

Qty Part number

Description

Batch

2 D2856-600(10.09") Abrasion Strip

26650

27 07-04-18

11.0

D29401

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part number

Description

Batch

2 D2940-1

Support

25594

27 07-04-18

12.0

MS2192028

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:

Qty Part number

Description

Batch

4 MS21920-28

Clamp

102534

27 07-04-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes (No) DQA: FD Date: 21/04/19
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 11/27/2006 10:05:49 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT X-TUBE EXT HEIGHT(-013)

Job Number: 29703

Part Number: D205596107

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips per QSI 035 position using DT8582. Install supports and clamps per Dwg D205-596-107. Torque clamps to 80-100 in lb. Seal edges of support using Sikaflex

A/R Sikaflex -291

Expiry date:

N/A

07-04-18

14.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

07-04-18 @

15.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-596-107

Location:

PPP Rev:

C

7/4/18 59

16.0

QC21

FINAL INSPECTION/W/O RELEASE



(1)

Comment: FINAL INSPECTION/W/O RELEASE

07/04/19

Job Completion



07-04-19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

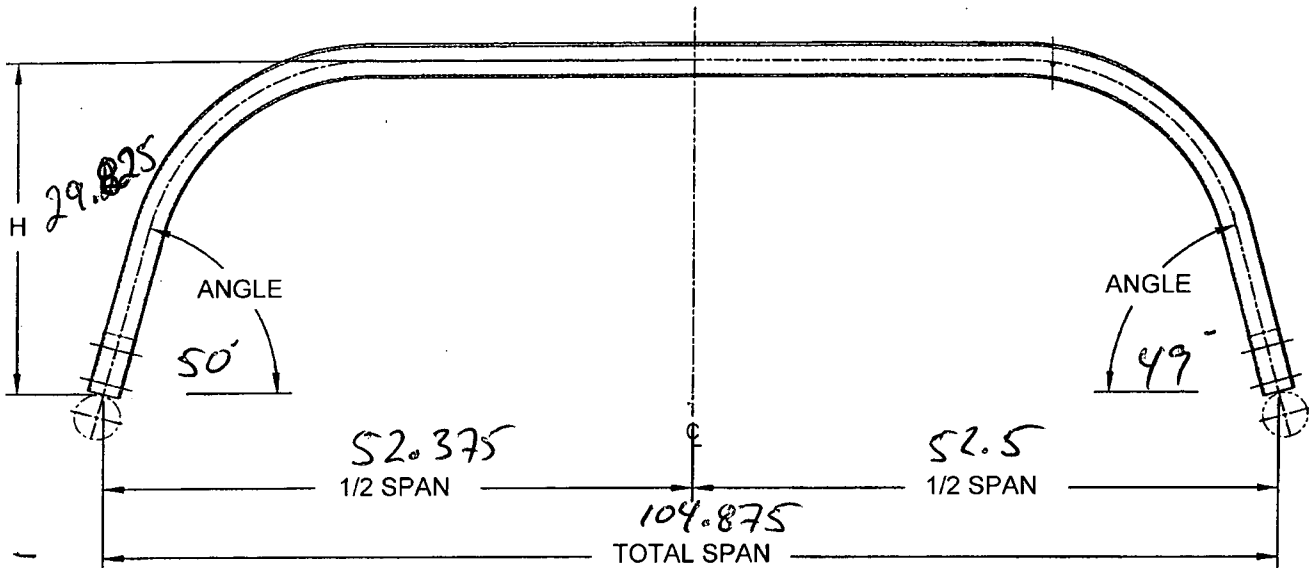
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Crosstube Bend Dimension Sheet



PART NUMBER: 205-596-107

BATCH NUMBER: 29703

DRAWING: 107 REVISION: A

H: 29.8

1/2 SPAN: 52.5

TOTAL SPAN: 105 ± .200

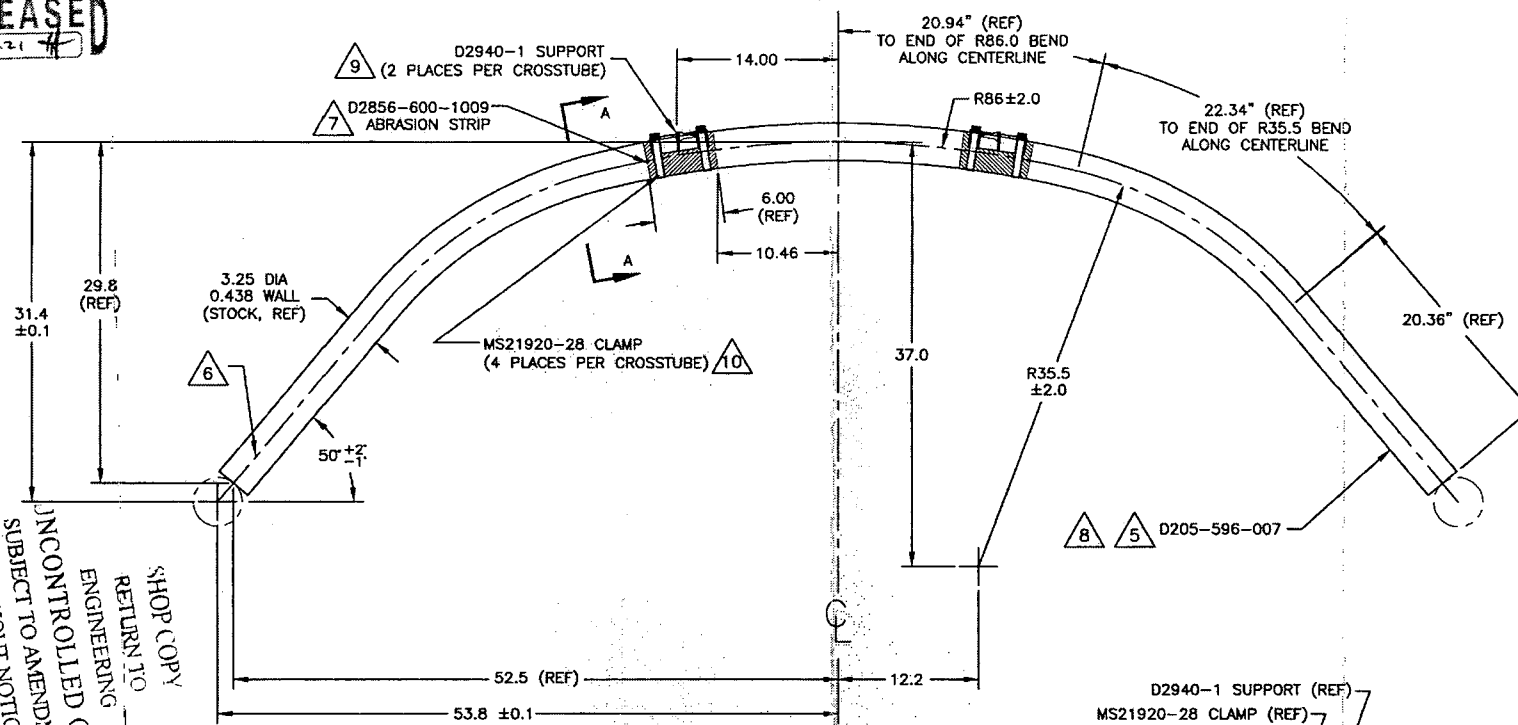
ANGLE: 50° ± 2°

QC 15: [Signature]

DATE: 06.12.05

QTY: 1

RELEASED
02.11.21

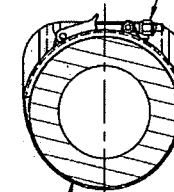


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RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO 29703

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) MATERIAL: MANUFACTURE FROM D6008-180
FINISHED LENGTH = 127.28
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 6) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS
- 7) INSTALL D2856-600-1009 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2940-1 SUPPORT, PER QSI 035
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005\"
- 9) SEAL EDGES OF SUPPORTS USING SIKAFLEX-241/-291 SEALANT (OPTIONAL)
- 10) TORQUE CLAMPS 80 TO 100 IN-LB

D2940-1 SUPPORT (REF)
MS21920-28 CLAMP (REF)



SECTION A-A
SCALE 2:5

D2856-600-1009 ABRASION STRIP (REF)

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A		02.11.20	NEW ISSUE
DESIGN	✓	DRAWN BY	✓
CHECKED	✓	APPROVED	✓
DATE	02.11.20	DRAWING NO.	D205-596-107
		TITLE	CROSSTUBE AFT EXTENDED
		SCALE	1:10

DART DART AEROSPACE LTD.
HARRISBURG, ONTARIO, CANADA



Jason Murdoch

From: David Shepherd [dshepherd@dartaero.com]
Sent: Tuesday, January 23, 2007 12:57 PM
To: 'Jason Murdoch'
Cc: 'L Lacelle'; 'Dale Trepanier'; 'Susanne Sheldon'; 'Jean-Luc Menard'; 'Eric Charbonneau'; 'Bill Beckett'
Subject: RE: need to know

Jason,

I talked to Dan Paquette about this the last time I was there.
It is acceptable to me to REMOVE the Engineering approval of the cut height on the extra high gear crosstubes.

These are big money cuts and we put this check in place mainly due to a lack of confidence in the personnel involved in cutting them at the time.
As anybody who has tried to cut these things knows, it is not necessarily black and white.

I think the personnel involved are now capable of taking responsibility for these cuts.

David

From: Jason Murdoch [mailto:jmurdoch@dartaero.com]
Sent: Monday, January 22, 2007 4:47 AM
To: 'David Shepherd'
Cc: 'L Lacelle'; 'Dale Trepanier'
Subject: need to know

I was wondering if I was allowed to sign off on the 205 high gear x-tubes that need Eng. approval before being cut to height. I completed the dimension check, and signed that off, just the w/o says to have an Eng. sign. If I can inspect it, I should be able to sign for it?

jmurdoch@dartaero.com
Q.C. COORDINATOR

--
No virus found in this incoming message.
Checked by AVG Free Edition.
Version: 7.1.410 / Virus Database: 268.17.3/642 - Release Date: 1/20/2007

--
No virus found in this outgoing message.
Checked by AVG Free Edition.
Version: 7.1.410 / Virus Database: 268.17.4/644 - Release Date: 1/22/2007